8. Marshall

Program Name: Marshall.java **Input File: marshall.dat**

Marshall is working on an audio editing tool that processes digital waveforms. A waveform is represented as a sequence of volume levels over time. To ensure audio clarity, Marshall wants to find the longest segment of the waveform where the volume is consistently controlled – that is, the volume at every point in the segment does not exceed a certain threshold.

Marshall wants to identify the maximum-length contiguous segment of the waveform where the volume never exceeds a given threshold V, and the segment is at least L time units long.

Input: The first line of input contains a single integer N ($1 \le N \le 100$), the number of test cases. Each test case begins with a line containing three integers:

S ($1 \le S \le 10^5$): the number of time units in the waveform

V ($0 \le V \le 10^6$): the maximum acceptable volume

L ($1 \le L \le S$): the minimum required segment length

The next line contains S integers: the volume levels at each time unit.

Output: For each test case, output a single integer – the length of the longest contiguous segment of at least length L where all volumes are ≤ V. If no such segment exists, output −1.

Sample input:

```
2
7 3 2
2 3 5 1 6 2 1
5 10 3
4 7 5 6 9
```

Sample output:

```
2
5
```